CLAIMS

1. A microactuator for positioning a read/write head relative to a head suspension assembly of a disk drive, comprising a substantially C-shaped member having first and second ends, each end having an end face with the end face of one end being opposed to and spaced from the end face of the other, wherein the member is resilient and responsive to an applied magnetic or electric field, with end face to end face separation being controllable by the magnetic or electric field applied.

2. A microactuator according to claim 1, in which the substantially C-shaped member comprises a piezoelectric material.

3. A microactuator according to claim 2, in which the substantially C-shaped member is a piezoelectric bimorph expander.

4. A microactuator according to claim 2, in which the substantially C-shaped member is a piezoelectric monolith having pairs of electrodes adapted to apply a first electric field to a first region of the C-shaped member and a second electric field to a second region of the C-shaped member.

5. A microactuator according to claim 1, comprising a plurality of substantially C-shaped members, each as hereinbefore defined, the plurality of substantially C-shaped members being stacked one on top of another.

6. A microactuator according to claim 1, in which the substantially C-shaped member comprises a body of ferromagnetic material.

7. A microactuator according to claim 6, further comprising a cable wound around the body such that an electric current carried by the cable induces a magnetic field in the body to control end face to end face separation.

8. A head suspension assembly for a magnetic disk drive, comprising a load beam, a head slider and a microactuator for positioning the head slider relative to a rigid mounting end of the load beam, the microactuator

comprising a substantially C-shaped member having first and second ends, each end having an end face with the end face of one end being opposed to and spaced from the end face of the other, wherein the member is resilient and responsive to an applied magnetic or electric field, with end face to end face separation being controllable by the magnetic or electric field applied.

9. A head suspension assembly according to claim 8, in which the substantially C-shaped member comprises a piezoelectric material.

10. A head suspension assembly according to claim 8, in which the substantially C-shaped member is a piezoelectric bimorph expander.

11. A head suspension assembly according to claim 8, in which the substantially C-shaped member is a piezoelectric monolith having pairs of electrodes adapted to apply a first electric field to a first region of the C-shaped member and a second electric field to a second region of the C-shaped member.

12. A head suspension assembly according to claim 8, comprising a plurality of substantially C-shaped members, each according to the aforementioned substantially C-shaped member, the plurality of substantially C-shaped members being stacked one of top of another.

13. A head suspension assembly according to claim 8, in which the substantially C-shaped member comprises a body of ferromagnetic material..

14. A head suspension assembly according to claim 13, further comprising a cable wound around the body such that an electric current carried by the cable induces a magnetic field in the body to control end face to end face separation.

15. A head suspension assembly according to claim 8, in which the microactuator is mounted on the load beam.

16. A head suspension assembly according to claim 15, in which the load beam has a slit extending from a free edge of the load beam, the microactuator being mounted such that reducing the end face to end face separation exerts a force narrowing the slit in the load beam.

17. A head suspension assembly according to claim 16, in which a surface adjacent the first end is attached to the load beam on one side of the slit, and a surface adjacent the second end is attached to the load beam on the other side of the slit.

18. A head suspension assembly according to claim 8, in which the microactuator is mounted between the load beam and the head slider.

19. A head suspension assembly according to claim 18, in which the load beam comprises a flexible coupling and the microactuator is sandwiched between the flexible coupling and the head slider.

20. A head suspension assembly according to claim 19, in which an upper surface of the microactuator adjacent one of the ends is attached to the flexible coupling, and a lower surface of the microactuator adjacent the other of the ends is attached to the head slider.

21. A head suspension assembly according to claim 20, in which the lower surface is attached to the geometric centre of the head slider.

22. A head suspension assembly according to claim 18, in which the end face of one of the ends is attached to the head slider.

23. A head suspension assembly according to claim 22, further comprising a lug extending from the said end face for engagement with the head slider.

24. A magnetic disk drive comprising a head suspension assembly according to claim 8.